

The invention relates to a device for detecting different conditions of a component (1), such as distorted conditions, movements and loaded conditions. Said device comprises a transmitter (2) and a receiver (3) which are located independently on at least one component at a distance from one another and an evaluation unit (4). The transmitter (2) emits an electromagnetic wave (such as e.g. a laser beam), or a focused particle beam to the receiver (3). The spatial resolution can be increased by multiple reflections from a mirror and a semi-transparent mirror (9).

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[illegible]

List of reference numerals

- 1 component, railway track
- 2 transmitter, laser
- 3 receiver
- 4 evaluation unit
- 5 light beam, laser beam
- 5' deflected laser beam
- 6 reflector, reflective surface
- 7 housing
- 8 left-hand half of the housing
- 8' right-hand half of the housing
- 9 semi-transparent layer
- 10 reflected light or laser beam
- 11 transducer
- 12 left holder
- 12' right holder
- 13 exit point for the laser
- 14 striking point for the laser
- 15 bore
- 16 stud bolts
- 16' stud bolts
- 17 pin connection
- 17' pin connection
- 18 connection
- 18' connection
- 19 light-sensitive surface, PSD transducer
- 20 plate
- 21 clamping element
- 22 contact part
- 22' contact part
- 23 bore
- 24 bore
- 25 rail foot
- 26 short leg of 21
- 26' long leg of 21